

**ABSTRACT OF THE INVENTION:**

Methods and systems for packet-by-packet directional mobile wireless transmission utilizing plurality of directional antenna sectors, such that, the transmission of each packet is performed by at least one selected antenna sector. The direction of transmission is selected responsive to the direction in which the best electromagnetic signal reception was received. For each plurality of data packets, the transmission direction is selected again. Switching logic is coupling the out going transmission signal to selected ones from the plurality of the antennas responsive to the motion of the mobile user. The antenna design in this invention is aimed at increasing the gain and minimizing the interfering signals with respect large number of mobile users who are concurrently and continuously tracking and communicating with their access points, and consequently, increasing the bit rate of each transmission and the aggregate capacity of the wireless system.